

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (currently amended). A method of screening a candidate molecule to identify/determine its ability to inhibit (antagonize) or agonize a recombinant polypeptide encoded by a nucleic acid molecule comprising the sequence of SEQ ID NO:5 or of SEQ ID NO:13, said method comprising the steps of:

- (a) adding the candidate molecule to a medium which contains the polypeptide;
- (b) determining the level of ~~a biological~~kinase activity in the medium; and
- (c) comparing the level of ~~biological~~kinase activity of step (b) with the level of ~~biological~~kinase activity that occurs in the medium in the presence of the polypeptide and the absence of the candidate molecule;

wherein a decreased level of ~~biological~~kinase activity of step (b), as compared to the level of ~~biological~~kinase activity that occurs in the medium in the presence of the polypeptide and the absence of the candidate molecule, indicates an antagonist; and an increased level of ~~biological~~kinase activity of step (b), as compared to the level of ~~biological~~kinase activity that occurs in the medium in the presence of the polypeptide and the absence of the candidate molecule, indicates an agonist.

Claim 2 (original). The method of claim 1 wherein the nucleic acid molecule encodes an amino acid sequence comprising the sequence of SEQ ID NO:11, or of SEQ ID NO:14, or of Leu-2 through Val-505 of SEQ ID NO:11.

Claim 3 (original). The method of claim 1 wherein the polypeptide comprises the amino acid sequence of SEQ ID NO:11, or of SEQ ID NO:14, or of Leu-2 through Val-505 of SEQ ID NO:11.

Claim 4 (original). The method of claim 1 wherein the recombinant polypeptide is a purified polypeptide.

Claim 5 (original). The method of claim 1 wherein the recombinant polypeptide is produced by cells in the medium.

Claim 6 (original). The method of claim 5 wherein the recombinant polypeptide is produced according to a method comprising culturing a recombinant host cell comprising a nucleic acid molecule comprising the sequence of SEQ ID NO:5 or of SEQ ID NO:13 under conditions promoting expression of said polypeptide.

Claim 7 (original). The method of claim 6, wherein the host cell is selected from the group consisting of bacterial cells, yeast cells, plant cells, insect cells, and animal cells.

Claims 8-10 (canceled).

Claim 11 (original). The method of claim 1 wherein the medium comprises ^{32}P .

Claim 12 (original). The method of claim 1 wherein the method is used to identify antagonists and agonists from cells, cell-free preparations, chemical libraries, or natural product mixtures.

Claim 13 (currently amended). The method of claim 1 wherein the candidate molecule is selected from the group consisting of ~~natural or modified enzymes; natural or modified substrates, ligands, or receptors of the polypeptide; structural or functional mimetics of the polypeptide; catalytically inactive mutants of the polypeptides;~~ small molecules; peptides; antibodies that bind to the polypeptide; and antisense molecules capable of blocking transcription or translation of mRNA encoding the polypeptide.

Claim 14 (currently amended). A method of screening a candidate molecule to identify/determine its ability to inhibit (antagonize) or agonize a recombinant polypeptide encoded by a nucleic acid molecule comprising the sequence of SEQ ID NO:6 or of SEQ ID NO:15, said method comprising the steps of:

- (a) adding the candidate molecule to a medium which contains the polypeptide;

- (b) determining the level of ~~a biological kinase~~ activity in the medium; and
- (c) comparing the level of ~~biological kinase~~ activity of step (b) with the level of ~~biological kinase~~ activity that occurs in the medium in the presence of the polypeptide and the absence of the candidate molecule;

wherein a decreased level of ~~biological kinase~~ activity of step (b), as compared to the level of ~~biological kinase~~ activity that occurs in the medium in the presence of the polypeptide and the absence of the candidate molecule, indicates an antagonist; and an increased level of ~~biological kinase~~ activity of step (b), as compared to the level of ~~biological kinase~~ activity that occurs in the medium in the presence of the polypeptide and the absence of the candidate molecule, indicates an agonist.

Claim 15 (original). The method of claim 14 wherein the nucleic acid molecule encodes an amino acid sequence comprising the sequence of SEQ ID NO:12 or of Pro-2 through Glu-499 of SEQ ID NO:12.

Claim 16 (original). The method of claim 14 wherein the polypeptide comprises the amino acid sequence of SEQ ID NO:12 or of Pro-2 through Glu-499 of SEQ ID NO:12.

Claim 17 (original). The method of claim 14 wherein the recombinant polypeptide is a purified polypeptide.

Claim 18 (original). The method of claim 14 wherein the recombinant polypeptide is produced by cells in the medium.

Claim 19 (original). The method of claim 18 wherein the recombinant polypeptide is produced according to a method comprising culturing a recombinant host cell comprising a nucleic acid molecule comprising the sequence of SEQ ID NO:6 or of SEQ ID NO:15 under conditions promoting expression of said polypeptide.

Claim 20 (original). The method of claim 19, wherein the host cell is selected from the group consisting of bacterial cells, yeast cells, plant cells, insect cells, and animal cells.

Claims 21-23 (canceled).

Claim 24 (original). The method of claim 14 wherein the medium comprises ^{32}P .

Claim 25 (original). The method of claim 14 wherein the method is used to identify antagonists and agonists from cells, cell-free preparations, chemical libraries, or natural product mixtures.

Claim 26 (currently amended). The method of claim 14 wherein the candidate molecule is selected from the group consisting of ~~natural or modified enzymes; natural or modified substrates, ligands, or receptors of the polypeptide; structural or functional mimetics of the polypeptide; catalytically inactive mutants of the polypeptides~~; small molecules; peptides; antibodies that bind to the polypeptide; and antisense molecules capable of blocking transcription or translation of mRNA encoding the polypeptide.

Claim 27 (currently amended). A method of screening a candidate molecule to identify/determine its ability to inhibit (antagonize) or agonize a recombinant polypeptide comprising the amino acid sequence of Pro-2 through Glu-499 of SEQ ID NO:12, said method comprising the steps of:

- (a) adding the candidate molecule to a medium which contains the polypeptide and a substrate of the polypeptide;
- (b) determining the level of ~~a biological kinase~~ activity in the medium; and
- (c) comparing the level of ~~biological kinase~~ activity of step (b) with the level of ~~biological kinase~~ activity that occurs in the medium in the presence of the polypeptide and the substrate and the absence of the candidate molecule;

wherein a decreased level of ~~biological kinase~~ activity of step (b), as compared to the level of ~~biological kinase~~ activity that occurs in the medium in the presence of the polypeptide and the substrate and the absence of the candidate molecule, indicates an antagonist; and an increased level of ~~biological kinase~~ activity of step (b), as compared to the level of ~~biological kinase~~

activity that occurs in the medium in the presence of the polypeptide and the substrate and the absence of the candidate molecule, indicates an agonist.

Claim 28 (original). The method of claim 27 wherein the recombinant polypeptide is a purified polypeptide.

Claim 29 (original). The method of claim 27 wherein the recombinant polypeptide is produced by cells in the medium.

Claim 30 (canceled).